

REMARKS

The claims of parent application Serial No. 10/215,342 were subject to a requirement for restriction as set forth in the Action mailed November 13, 2002. In response to that requirement, Applicants elected Claims 23-31 for prosecution in said parent application. Non-elected Claims 1-22 are presented for examination in this divisional application.

The accompanying text for the specification and claims and the drawings have been presented in accordance with the guidelines set forth in the notice entitled "Pre-Grant Publication Helpful Hint" of September 12, 2001, authored by Deputy Commissioner for Patent Examination Policy Stephen G. Kunin. Specifically, the specification reflects changes identical to amendments presented and entered in the parent application.

IN THE SPECIFICATION

Paragraphs [0025] and [0055] have been amended to read:

[0025] ~~FIG. 10 illustrates a~~ FIGS. 10 and 11 illustrate perspective view views for explaining a structure of trench isolation according to still another preferred embodiment of the present invention.

[0055] A lower isolation pattern 164 having a top surface that is lower than that of the semiconductor substrate 100 is formed in a lower region of the first trench 131 where the nitride liner pattern 152 is formed. The top surface of the lower isolation pattern 164 is preferably lower than that of the semiconductor substrate 100 by at least 500 Å. Further, a gap region, which is surrounded by a sidewall of the first trench 131 where the thermal oxide layer 140 and the nitride liner pattern 152 are formed, and by the top surface of the lower isolation pattern 164, preferably has an aspect ratio of 3 or less. The lower isolation pattern 164 may remain even in the lower region of the second trench 132, as shown in FIG. 11, and in this case, should have a top surface lower than that of the semiconductor substrate 100 by at least 500Å, similar to the lower isolation pattern

164 formed in the first trench 131. However, the lower isolation pattern 164 is necessary in the first trench 131, but not essential in the second trench 132.

IN THE DRAWINGS

Figure 11 is included as part of this divisional application.

Action on the merits is solicited.

Respectfully submitted,

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PETITION and
DEPOSIT ACCOUNT CHARGE AUTHORIZATION

This document and any concurrently filed papers are believed to be timely. Should any extension of the term be required, applicant hereby petitions the Director for such extension and requests that any applicable petition fee be charged to Deposit Account No. 50-1645.

If fee payment is enclosed, this amount is believed to be correct. However, the Director is hereby authorized to charge any deficiency or credit any overpayment to Deposit Account No. 50-1645.

Any additional fee(s) necessary to effect the proper and timely filing of the accompanying-papers may also be charged to Deposit Account No. 50-1645.